

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph bridging pages 16-17 with the following new paragraph:

The excimer laser has two unwanted properties, flash-to-flash energy variations of 5% and flash-to-flash time ~~jitter~~jitter of 100 ns. In the preferred embodiments both are compensated in the same way. A first exposure is made of the entire pattern with 90% power. The actual flash energy and time position for each flash is recorded. A second exposure is made with nominally 10 % exposure and with the analog modulation used to make the second exposure 5 - 15% depending on the actual value of the first one. Likewise a deliberate time offset in the second exposure can compensate for the time ~~jitter~~jitter of the first one. The second exposure can fully compensate the errors in the first, but will itself give new errors of the same type. Since it is only on average 10% of the total exposure both errors are effectively reduced by a factor of ten. In practice the laser has a time uncertainty that is much larger than 100 ns, since the light pulse comes after a delay from the trigger pulse and this delay varies by a couple of microseconds from one time to another. Within a short time span the delay is more stable. Therefore the delay is measured continuously and the last delay values, suitably filtered, are used to predict the next pulse delay and to position the trigger pulse.

Please delete the present Abstract of the Disclosure and replace it with the following new Abstract of the Disclosure:

The present invention relates to an apparatus for creating a pattern on a workpiece sensitive to radiation, such as a photomask a display panel or a microoptical device. The apparatus ~~comprises~~may include a source for emitting ~~electromagnetic radiation~~light flashes, a spatial modulator having ~~multitude of~~ modulating elements (pixels), adapted to being illuminated by ~~said the~~ radiation, and a projection system creating an image of the modulator on the workpiece. It may further ~~comprises~~include an electronic data processing and delivery system receiving a digital description of the pattern to be written, ~~extracting from it a sequence of partial patterns, converting said the partial patterns~~pattern to modulator signals, and feeding ~~said the~~ signals to the modulator, ~~a precision mechanical system for moving said workpiece and/or projection system relative to each other and, a~~An electronic control system ~~coordinating the movement of the workpiece, the feeding of the signals to the modulator and the intensity of the radiation, so that said pattern is stitched together from the partial images created by the sequence of partial patterns.~~ According to the invention the drive signals can set a modulating element to a ~~number of states larger than two~~ may be provided to control a trigger signal to compensate for flash-to-flash time jitter in the light source.